

We claim:

1. A method for governing the delivery rate of electronic mail (email) messages, said method comprising:

providing a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously;

controlling the rate of the email delivery based on delivery efficiency and a target delivery rate; and

wherein the delivery efficiency is based on the performance of the plurality of MTAs.

2. The method of claim 1 wherein:

the controlling is accomplished by increasing or decreasing the number of MTAs in the plurality of MTAs that can be allocated for delivering email.

3. The method of claim 1 wherein:

the controlling is accomplished by de-allocating MTAs in the plurality of MTAs that are in use.

4. The method of claim 1, further comprising:

controlling the rate of delivery based on MTA utilization.

5. The method of claim 1 wherein:

the delivery efficiency is based on email message throughput over a period of time and the average number of allocated MTAs in the plurality of MTAs over the period of time.

6. The method of claim 1 wherein:

the controlling is continuous or periodic.

7. The method of claim 1 wherein:

the plurality of MTAs can execute on one or more servers.

8. The method of claim 1 wherein:  
an MTA can be restarted if it fails.
9. The method of claim 1 wherein:  
an MTA can personalize an email message.
10. The method of claim 1, further comprising:  
adjusting an MTA email message delivery retry limit based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.
11. A method for governing the delivery rate of electronic mail (email) messages, said method comprising:  
providing a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously;  
tracking over time delivery efficiency for the plurality of MTAs;  
controlling the rate of delivery based on the delivery efficiency and a target delivery rate; and  
wherein the controlling is accomplished by increasing or decreasing the number of MTAs in the plurality of MTAs that can be allocated for delivering email.
12. The method of claim 11 wherein:  
the controlling is accomplished by de-allocating MTAs in the plurality of MTAs that are in use.
13. The method of claim 11, further comprising:  
controlling the rate of delivery based on MTA utilization.
14. The method of claim 11 wherein:  
the delivery efficiency is based on email message throughput over a period of time and the average number of allocated MTAs in the plurality of MTAs over the period of time.

15. The method of claim 11 wherein:  
the controlling is continuous or periodic.
16. The method of claim 11 wherein:  
the plurality of MTAs can execute on one or more servers.
17. The method of claim 11 wherein:  
an MTA can be restarted if it fails.
18. The method of claim 11 wherein:  
an MTA can personalize an email message.
19. The method of claim 11, further comprising:  
adjusting an MTA email message delivery retry limit based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.
20. A system for governing the delivery rate of electronic mail (email) messages, said system comprising:  
a plurality of mail transfer agents (MTAs) operable to deliver messages; and  
a governor operable to control the delivery rate of the plurality of MTAs based on delivery efficiency and a target delivery rate.
21. The system of claim 20 wherein:  
the governor is operable to increase or decrease the number of MTAs in the plurality of MTAs that can be allocated for delivering email.
22. The system of claim 20 wherein:  
the governor is operable to de-allocate MTAs in the plurality of MTAs that are in use.
23. The system of claim 20 wherein:  
the governor is operable to control the rate of delivery based on MTA

utilization.

24. The system of claim 20 wherein:

the delivery efficiency is based on email message throughput over a period of time and the average number of allocated MTAs in the plurality of MTAs over the period of time.

25. The system of claim 20 wherein:

the governor is operable to control continuously or periodically.

26. The system of claim 20 wherein:

the plurality of MTAs can execute on one or more servers.

27. The system of claim 20 wherein:

an MTA can be restarted if it fails.

28. The system of claim 20 wherein:

an MTA can personalize an email message.

29. The system of claim 20 wherein:

the governor is operable to adjust an MTA email message delivery retry limit based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.

30. A system for governing the delivery rate of electronic mail (email) messages, said system comprising:

a plurality of mail transfer agents (MTAs) operable to deliver messages; and

a governor operable to control the delivery rate of the plurality of MTAs based on delivery efficiency and a target delivery rate; and

wherein the governor is operable to increase or decrease the number of MTAs in the plurality of MTAs that can be allocated for delivering email.

31. The system of claim 30 wherein:

the governor is operable to de-allocate MTAs in the plurality of MTAs that are in use.

32. The system of claim 30 wherein:

the governor is operable to control the rate of delivery based on MTA utilization.

33. The system of claim 30 wherein:

the delivery efficiency is based on email message throughput over a period of time and the average number of allocated MTAs in the plurality of MTAs over the period of time.

34. The system of claim 30 wherein:

the governor is operable to control continuously or periodically.

35. The system of claim 30 wherein:

the plurality of MTAs can execute on one or more servers.

36. The system of claim 30 wherein:

an MTA can be restarted if it fails.

37. The system of claim 30 wherein:

an MTA can personalize an email message.

38. The system of claim 30 wherein:

the governor is operable to adjust an MTA email message delivery retry limit based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.

39. A system comprising:

means for providing for the delivery of email messages;

means for controlling the rate of the delivery based on delivery efficiency and a target delivery rate; and

wherein the delivery efficiency is based on the performance of a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously.

40. A computer data signal embodied in a transmission medium, comprising:  
a code segment including instructions to provide for the delivery of email messages;

a code segment including instructions to control the rate of the delivery based on delivery efficiency and a target delivery rate; and

wherein the delivery efficiency is based on the performance of a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously.

41. A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

provide for the delivery of email messages;

control the rate of the delivery based on delivery efficiency and a target delivery rate; and

wherein the delivery efficiency is based on the performance of a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously.

42. The machine readable medium of claim 41 wherein:

the controlling is accomplished by increasing or decreasing the number of MTAs in the plurality of MTAs that can be allocated for delivering email.

43. The machine readable medium of claim 41 wherein:

the controlling is accomplished by de-allocating MTAs in the plurality of MTAs that are in use.

44. The machine readable medium of claim 41, further comprising instructions that when executed cause the system to:

control the rate of delivery based on MTA utilization.

45. The machine readable medium of claim 41 wherein:

the delivery efficiency is based on email message throughput over a period of time and the average number of allocated MTAs in the plurality of MTAs over the

period of time.

46. The machine readable medium of claim 41 wherein:  
the controlling is continuous or periodic.
47. The machine readable medium of claim 41 wherein:  
the plurality of MTAs can execute on one or more servers.
48. The machine readable medium of claim 41 wherein:  
an MTA can be restarted if it fails.
49. The machine readable medium of claim 41 wherein:  
an MTA can personalize an email message.
50. The machine readable medium of claim 41, further comprising instructions that when executed cause the system to:  
adjust an MTA email message delivery retry limit based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.
51. A method for governing the delivery rate of electronic mail (email) messages, said method comprising:  
providing a plurality of mail transfer agents (MTAs) that are capable of delivering email simultaneously;  
automatically adjusting a email message retry limit for the plurality of MTAs;  
and  
wherein an MTA in the plurality of MTAs can be allocated for delivering email.
52. The method of claim 51, further comprising:  
controlling the rate of the email delivery based on delivery efficiency and a target delivery rate; and  
wherein the delivery efficiency is based on the performance of the plurality of

MTAs.

53. The method of claim 51 wherein:

adjusting an MTA email message delivery retry limit is based on one of: 1) a number of allocated MTAs; 2) delivery failure rate; 3) a number of allocated MTAs and a delivery failure rate; 4) stage of message delivery; and 5) utilization of the plurality of MTAs.

54. The method of claim 51 wherein:

the retry limit is reduced if a number of allocated MTAs in the plurality of MTAs exceeds a first value.

55. The method of claim 51 wherein:

the retry limit is increased if the number of allocated MTAs in the plurality of MTAs falls below a second value.

56. The method of claim 51 wherein:

the retry limit is decreased if an email delivery failure rate exceeds a first value.

57. The method of claim 51 wherein:

the retry limit is increased if an email delivery failure rate falls below a second value.

58. The method of claim 51 wherein:

the retry limit decreases as is later stages of message delivery.

59. The method of claim 51 wherein:

the retry limit is inversely proportionate to utilization of the plurality of MTAs.